

What is claimed is:

1. A vehicle for inspecting and restoring a pipe comprising:
a chassis; and
propulsion means for driving the chassis along the pipe, electrically controllable by a human operator using electrical control means wherein the propulsion means comprises at least one pair of electric motors of differing operating speed output ranges connectable by a clutch, with the pair of electric motors being individually controllable and the clutch operable to engage and disengage the electric motors, whereby the vehicle can be operated in a first operating mode in which the electric motors are disengaged and a first motor of the pair provides motive power output and a second operating mode in which the pair of electric motors are engaged with each other via the clutch and the second motor of the pair is used to provide motive power output via the first electric motor.
2. The vehicle as in claim 1, wherein the pair of electric motors are provided together in a caterpillar tracked drive unit wherein the first motor is directly connected to a sprocket which engages the caterpillar track and the second motor is connectable with the sprocket only via the clutch and the first motor.
3. The vehicle as in claim 2, further comprising a plurality of pairs of electric motors in a plurality of caterpillar tracked drive units in each of which the first motor is directly connected to a sprocket which engages the caterpillar track and the second motor is connectable with the sprocket only via the clutch and the first motor and wherein in the first operating mode the first electric motors of all of the pairs of motors provide motive power to the vehicle and in the second operating mode the second electric motors of all of the pairs of electric motors provide motive power to the vehicle.
4. The vehicle as in claim 3, wherein there are three drive units, in the plurality of the drive units, each for engaging a portion of the interior surface of the pipe spaced 120

degrees from the portions of the interior pipe surface engaged by the other two drive units.

5. The vehicle as in claim 3, wherein each drive unit is pivotally connected to the chassis and the actuator means can pivot the drive units relative to the chassis.
6. The vehicle as in claim 1, further comprising camera means to provide an image of the interior of the pipe.
7. The vehicle as in claim 1, further comprising cutting means mounted on the chassis comprising a cutting tool capable of cutting through a liner lining the pipe; and actuator means for moving the cutting means relative to the chassis; and the cutting means and the actuator means being electrically controllable by the human operator using the electrical control means.
8. The vehicle as in claim 7, wherein the actuator means comprises a hydraulic ram powered by hydraulic fluid pressurised by an electrically operated pump mounted on the chassis of the vehicle and controllable by the control means.
9. The vehicle as in claim 8, wherein the pump is connectable to an electrical cable dragged behind the vehicle to receive electrical power therefrom.
10. The vehicle as in claim 9, wherein the propulsion means, the cutting means and the actuator means are all connectable to the electrical cable to receive electrical power and control signals therefrom.
11. The vehicle as in claim 8, wherein the propulsion means comprises a plurality of caterpillar tracked drive units pivotally connected to the chassis which are pivoted relative to the chassis by a/the hydraulic ram powered by hydraulic fluid supplied by the hydraulic pump mounted on the chassis.

12. The vehicle as in claim 8, comprising additionally sensor means which when located adjacent the interior surface of the pipe provide a signal indicative of the presence of lateral openings in the pipe, wherein the actuator means is operable to move the sensor means relative to the chassis and the sensor means is connected to a/the hydraulic ram powered by hydraulic fluid supplied by the hydraulic pump mounted on the chassis.

13. The vehicle as in claim 1, comprising sensor means which when located adjacent the interior surface of the pipe provide a signal indicative of the presence of lateral openings in the pipe.

14. The vehicle as in claim 13, wherein the sensor means comprises a capacitive sensor.

15. The vehicle as in claim 15, wherein the actuator means is operable to move the sensor means relative to the chassis.

16. The vehicle as in claim 15, wherein the actuator means can engage the sensor means with one part of the interior surface of the pipe while forcing the cutting means to cut an aperture in a directly opposite part of the pipe whereby the engagement of the sensor means with the first part of the pipe provides a force which reacts to forces arising during a cutting operation and thereby stabilises the vehicle during the cutting operation.

17. The vehicle as in claim 6, the camera means comprising a stereoscopic camera system which can provide a seemingly three dimensional image of the interior of the pipe.

18. The vehicle as in claim 17, wherein the stereoscopic camera system comprises a pair of spaced apart cameras mounted on the chassis and wherein the signals from the cameras are multiplexed before onward transmission to viewing apparatus.

19. The vehicle as in claim 18, wherein the stereoscopic camera system comprises a pair of spaced apart charged coupled devices and sampling means which switches between sampling the outputs the charged coupled devices.

20. The vehicle as in claim 7, wherein the stereoscopic camera system comprises a pair of cameras or a pair of charged coupled devices mounted on a platform movable relative to the chassis by the actuator means.

21. A vehicle for inspecting and restoring a pipe comprising:
a chassis; and
at least one pair of electric motors of differing operating speed output ranges connectable by a clutch, with the pair of electric motors being individually controllable and the clutch operable to engage and disengage the electric motors, whereby the vehicle is operable by a human operator in a first operating mode in which the electric motors are disengaged and a first motor of the pair provides motive power output and a second operating mode in which the pair of electric motors are engaged with each other via the clutch and the second motor of the pair is used to provide motive power output via the first electric motor; the chassis and the electric motors and the clutch all being electrically controllable by the human operator using electrical control means.

22. A method of inspecting a pipe comprising inspecting the pipe by moving the vehicle in its first operating mode;
switching to its second operating mode while carrying out further inspection and/or restoration work on the pipeline, wherein the vehicle comprises:
a chassis; and
at least one pair of electric motors of differing operating speed output ranges connectable by a clutch, with the pair of electric motors being individually controllable and the clutch operable to engage and disengage the electric motors, whereby the vehicle is operable by a human operator in a first operating mode in which the electric motors are disengaged and a first motor of the pair provides motive power output and a

second operating mode in which the pair of electric motors are engaged with each other via the clutch and the second motor of the pair is used to provide motive power output via the first electric motor; the chassis and the electric motors and the clutch all being electrically controllable by the human operator using electrical control means.

23. The method as in claim 22, further comprising rotating the sensor means about the longitudinal axis of the vehicle in order to inspect the pipe.

24. The method as in claim 23, further comprising cutting an aperture in the pipe or a pipe liner while stabilising the cutter by engaging the sensor means against the opposite surface of the pipe.